

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appellants:	Dekkers, et al.	)	
		)	Group Art Unit: 1713
Serial No.:	10/798,183	)	
		)	
Filed:	March 11, 2004	)	Examiner: William K. Cheung
		)	
For:	BIOCIDAL COMPOSITIONS	)	
	AND METHODS OF MAKING	)	
	THEREOF	)	

**VIA ELECTRONIC FILING**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

**REPLY BRIEF**

**I. REAL PARTY IN INTEREST**

The real party in interest in this appeal is The General Electric Company.

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences known to Appellants, Appellants' legal representatives, or assignee that will directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

**III. STATUS OF THE CLAIMS**

Claims 1, 2, and 4-22 are pending in the application. Claims 1, 2, and 4-19 stand finally rejected, Claims 20-22 stand withdrawn, and no claims are allowed. Claims 1, 2, and 4-19, as they currently stand, are set forth in Appendix A. Appellants hereby appeal the final rejection of Claims 1, 2, and 4-19.

**IV. STATUS OF THE AMENDMENTS**

No amendments have been filed subsequent to the final rejection dated July 28, 2006. All prior amendments have been entered.

**V. SUMMARY OF CLAIMED SUBJECT MATTER**

Claim 1 is directed to an article comprising a thermoplastic composition, the thermoplastic composition comprising a thermoplastic resin (page 2, line 7 ) and an inorganic biocidal agent (page 2, line 7), wherein the thermoplastic resin comprises a homopolymer or copolymer of a polycarbonate, a polyester, a polyacrylate, a polyamide, a polyetherimide, a polyphenylene ether, or a combination comprising one or more of the foregoing resins (page 2, ll. 7-10), wherein the article comprises a textured exterior surface over at least a portion thereof, wherein the textured exterior surface comprises the thermoplastic resin and the biocidal inorganic agent (page 5, line 27 to page 6, line 26), wherein the article has a biocidal metal release factor of greater than 2.5 from an exterior surface (page 2, ll. 10-11), wherein the biocidal metal release in parts per billion is measured by contacting 5 cm by 5 cm of the exterior surface with 40 milliliters of 0.8% weight/volume of sodium nitrate for 24 hours at 25°C to form a test solution, and measuring the amount of biocidal metal in the test solution in parts per billion

(page 2, ll. 11-15), and wherein the biocidal metal release factor is the amount of biocidal metal in the test solution in parts per billion divided by a product of a weight percent of the inorganic biocidal agent based on the total weight of the article and the weight percent of biocidal metal in the inorganic biocidal agent. (page 2, ll. 15-18)

Claim 2 is directed to the article of Claim 1, wherein the biocidal metal release factor is greater than or equal to about 3. (page 4, ll. 22-23)

Claim 4 is directed to the article of Claim 1, wherein the inorganic biocidal agent is a biocidal zeolite. (page 8, line 22)

Claim 5 is directed to the article of Claim 1, wherein the exterior surface is in the form of a layer disposed over at least a portion of the article. (page 6, line 30 to page 7, line 1)

Claim 6 is directed to an article comprising a textured exterior surface covering at least a portion thereof, wherein the textured exterior surface comprises an inorganic biocidal agent and a first thermoplastic resin. (page 2, ll. 19-21)

Appellants have discovered that, unexpectedly, an article that comprises a textured exterior surface has superior biocidal activity over an article that comprises a smooth, non-textured surface. As disclosed in the Examples of the present Application, the textured exterior surface improves the biocidal metal release properties of the article. (page 36, line 21 to page 41, line 22; Tables 2, 5, and 6)

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 1, 2, and 4-19 stand rejected under 35 U.S.C. § 102(b), as anticipated by, or in the alternative, under 35 U.S.C. § 103(a), as allegedly obvious over U.S. Patent No. 6,365,066 to Podszun, et al. (“Podszun”).

## **VII. ARGUMENT**

Claims 1, 2, and 4-19 are neither anticipated by nor rendered obvious by Podszun.

The present invention relates to an article comprising a textured exterior surface that provides effective release of an inorganic biocidal agent. (¶¶ [0005], [0006]) Appellants discovered that an article comprising a textured exterior surface exhibits unexpectedly superior inorganic biocidal agent release properties over articles comprising a smooth, non-textured surface. As disclosed in the Examples of the present Application, the textured exterior surface

improves the biocidal metal release properties of the article. (¶¶ [0098]-[0106]; Tables 2, 5, and 6) Claims 1, 2, 4, and 5 of the present Application are further directed to an article comprising an inorganic biocidal agent wherein the article has a biocidal metal release factor greater than 2.5. The textured surface of the presently claimed article can therefore advantageously increase the release of biocidal metals, leading to a dramatic decrease in the growth of pathogenic organisms.

In the Examiner's Answer, the Examiner has continued to ignore Appellants' express definition of "textured" and instead has applied his own definition. The Examiner explains his decision apply his own definition of "textured" because "[w]ithout a clear description of what it means by 'textured' in appellants' specification, the examiner has a reasonable basis to define the recited 'textured' as broad as possible." (Examiner's Answer, page 6).

The MPEP expressly provides "Where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim." MPEP § 2111.01(IV); *see also* MPEP § 2173.05(a)(III); *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301 (Fed. Cir. 1999) (meaning of words used in a claim is not construed in a "lexicographic vacuum, but in the context of the specification and drawings").

The Examiner's explanation for using his own definition must fail because Appellants' specification does, in fact, contain a clear description of "textured." The specification expressly discloses:

By texturizing the exterior surface of the article or multi-layered article, it is meant that the surface layer is roughened in a manner and to an extent effective to produce a desired level of biocidal activity.

(¶ [0017]) The specification further discloses:

An article may be formed by a suitable means and then texturized by mechanically or chemically abrading the exterior surface of the article.

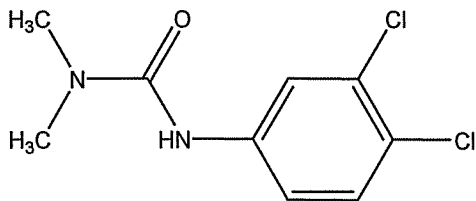
(¶ [0087]) As their own lexicographers, Appellants defined a term in the specification and then claimed that same term. The MPEP and the case law require that the Examiner construe the term "textured exterior surface" according to the clear description of texturizing the exterior surface disclosed in Appellant's specification. Claim 1 further requires that the article comprising the textured exterior surface exhibits a specified "biocidal metal release factor." Podszun fails to disclose a textured exterior surface as well as the specific biocidal metal release properties

related to such a surface. Because Podszun fails to teach all claim limitations, Podszun neither anticipates nor renders obvious Claim 1 and its dependent claims.

The Examiner has now conceded that claim 18 clearly recites “mechanical and chemical abrading.” (Examiner’s Answer, page 6) However, the Examiner has not considered this clear claim limitation while determining the patentability of claim 18 because the mechanical or chemical abrasion allegedly does not “necessarily impart any unique surface property feature.” (Examiner’s Answer, page 6) Claim 18 depends from claim 6, which requires a textured exterior surface. Appellants respectfully disagree with the Examiner’s conclusion. As explained above, Paragraph [0017] defines a textured exterior surface as one that is “roughened in a manner and to an extent effective to produce a desired level of biocidal activity.” The claimed textured exterior surface therefore must possess a unique surface property feature, specifically a desired level of biocidal activity. Because Podszun fails to disclose mechanical or chemical abrasion of an article, Podszun does not anticipate nor render obvious claim 18.

Appellants respectfully submit that the Examiner’s argument that “protrusions” are not supported by the claims is irrelevant to the instant §§ 102/103 rejection. (Examiner’s Answer, page 7) Appellants had previously described calendaring rolls as an example of texturizing an article in order to distinguish the present textured exterior surface, which requires modification, from Podszun, which fails to disclose any modification of a surface. An exterior surface comprising “protrusions” having particular spatial dimensions that are described in detail in Appellants’ specification is but one embodiment of the claimed textured exterior surface. The claims, however, do not require calendaring or protrusions having particular spatial dimensions. Instead, the present claims require a textured exterior surface having a desired level of biocidal activity. The Examiner’s arguments regarding “protrusions” are therefore not relevant to the appealed claims.

The Examiner has continued to rely on a comparative Example disclosed in Podszun that Podszun itself admits is “not in accordance with the invention” because “the surface of the coating was rough.” (Col. 5, ll. 55-67; Example 6) Example 6 has not been modified to provide a textured exterior surface. Further, the active substance in Podszun Example 6 is a microencapsulated diuron (see structure below) and not an inorganic biocidal agent.



Appellants dispute that one of ordinary skill in the art would “recognize that the increase in exposed area would means [sic] the increase in biocidal properties as claimed.” (Examiner’s Answer, page 7) Instead, one of ordinary skill in the art would recognize Podszun Example 6 as an ineffective biocidal article because the exposed diuron, which was not incorporated into the polymeric resin because it was not microencapsulated, would simply wash away. Claim 1 of the present application requires that biocidal metal release is measured over 24 hours in an aqueous test solution. Podszun therefore fails to disclose a textured exterior surface, an inorganic biocidal agent, and the specified biocidal metal release factor. For at least these reasons, Podszun does not anticipate nor render obvious the present claims.

The Examiner has also stated that a doctor blade “is used to maintain the homogeneity of the thickness of a coating and does not automatically generate a smooth surface.” (Examiner’s Answer, page 7) Appellants agree that the doctor blade is used in Podszun to maintain a uniform thickness of the coating; however, a doctor blade does not provide a textured exterior surface. Appellants submit that Podszun fails to disclose any additional modification to the coating to provide a textured exterior surface.

Appellants respectfully disagree that “appellants do not have any evidence to show that the articles of Podszun et al. do not involve the release of inorganic biocidal agent.” (Examiner’s Answer, page 9) First, Appellants have the disclosure of Podszun itself. Appellants submit that Podszun is expressly directed to an article that limits, rather than promotes, biocidal metal release. Podszun is directed to antifouling coatings that are applied to articles in contact with sea water to prevent infestation (i.e., attachment and growth) of algae and other marine organisms. (Abstract, Col. 1, ll. 57-59) The coatings disclosed by Podszun prevent infestation of articles, such as boat hulls, by killing marine organisms that attempt to directly attach to the treated hull without harming other organisms that are present in the harbor. Podszun achieves this goal by, *inter alia*, eliminating or reducing the release of biocidal agents into the seawater. Podszun, therefore, discloses a coating that limits the release of metals when contacted with a solution

(e.g., sea water), which is directly contrary to the presently claimed article that provides effective release of biocidal metal when contacted with a solution.

Second, the Examiner has repeatedly relied on the alleged identical composition disclosed in Podszun to support the §§ 102/103 rejections of the present claims. Even if Podszun disclosed an identical composition (a fact which Appellants strongly dispute), Appellants' own Examples demonstrate that an otherwise identical article that does not contain a textured exterior surface fails to exhibit the claimed biocidal activity. An unmodified (i.e., non-textured) surface corresponds to the Examples of the present Application, which are labeled "As such." The Examples disclose using light friction to provide textured articles that had roughly a 10-fold greater average roughness than the "As such" samples. (¶ [0098]; Table 2) The textured articles provide increased biocidal metal release as compared to the "As such" samples. Samples B, C, E, and F all show significantly increased silver release when the surfaces are texturized. (¶ [0099]; Table 2) As shown in Table 6 of the Application, the textured surfaces exhibit high biocidal efficacy indicating effective biocidal metal release properties. Even a small increase in biocidal metal release results in a large improvement in biocidal activity. The smooth surfaces of the unmodified, non-textured, but otherwise identical films, exhibit low biocidal efficacy indicating less effective biocidal metal release properties. (¶ [0106]) For example, an article comprising 0.5 wt% of biocidal agent Irgaguard B5021 (Sample W) is over one hundred fold more effective with a textured surface than without. (Tables 5 and 6) All of the samples in Table 6 similarly demonstrate that texturizing a surface provides a one to two log improvement in biocidal efficacy. Appellants submit that the textured articles have unexpectedly improved biocidal activity compared to the nontextured articles, which approximately correspond to the nontextured coating in Podszun. In some examples, the improvement is greater than additive (a roughly 10-fold increase in surface roughness provides a 100-fold or 2-log improvement in biocidal efficacy).

These data demonstrate the criticality of the claimed textured feature because an otherwise identical article that is not textured does not exhibit the claimed biocidal activity. Appellants' respectfully disagree with the Examiner that "appellants are required to submit comparative data of the samples as claimed and the samples prepared according to...Podszun et al." in order to demonstrate the criticality of the claimed textured feature. (Examiner's Answer,

page 9) Instead, the criticality of the claimed textured feature is proven, as Appellants have done, by comparing the experimental textured samples to control non-textured samples.<sup>1</sup>

The Examiner has contended that Podszun et al. “clearly inherently possess an improvement in the biocidal properties as claimed, without the need of any additional special processing step.” (Examiner’s Answer, page 9) Appellants’ data prove, unequivocally, that the Examiner’s contention is false. If it were true that the article of Podszun was identical to the presently claimed article (which it is not), then that article would not possess the claimed biocidal activity unless it was modified to provide a textured exterior surface.

The USPTO has recently published guidelines to assist Examiners in determining obviousness in view of the Supreme Court’s decision in *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727 (2007). The USPTO stated that “in formulating a rejection under § 103 based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the references in the manner claimed.” (Focarino memo, May 3, 2007, page 2). Appellants submit that the Examiner has failed to identify a reason why a person of ordinary skill in the art would modify Podszun to arrive at Appellants’ claimed article. First, Appellants submit that one of ordinary skill in the art researching the prior art for a disclosure of how to promote the release of an inorganic biocidal agent would not look to Podszun because it discloses how to inhibit the release of inorganic biocidal agents. Appellants further submit that one of ordinary skill in the art would have no reason to modify Podszun because the Examiner’s proposed modification of Podszun would render the coatings of Podszun unsuitable for their intended purpose. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); MPEP § 2143.01 (V). Because Podszun states that the rough surface in Example 6 is not in accordance with the invention, one of ordinary skill in the art would understand that the rough film of Example 6 does not work for its intended purpose. Yet the Examiner has used precisely this Example, that Podszun itself describes as being unsatisfactory for its intended purpose, as the basis for the § 103 rejection. Appellants therefore submit that the Examiner has failed to establish a *prima facie* case of obviousness.

---

<sup>1</sup> If it were true, as the Examiner has repeatedly insisted, that the presently claimed article is substantially identical to the article disclosed in Podszun, then the non-textured control samples would have been prepared according to Podszun.



“Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 989 (Fed. Cir. 2006) (citing *In re Lee*, 277 F.3d 1338, 1343-46 (Fed. Cir. 2002)); *In re Rouffett*, 149 F.3d 1350, 1355-59 (Fed. Cir. 1998). “When the Board does not explain the motivation, or the suggestion or teaching, that would have led the skilled artisan at the time of the invention to the claimed combination as a whole, [it is] infer[ed] that the Board used hindsight to conclude that the invention was obvious.” *Id.* Additionally, “[a]lthough the suggestion to combine references may flow from the nature of the problem, ‘[d]efining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness.’” (internal citation omitted) *Id.*, (quoting *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 881 (Fed. Cir. 1998)); *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992).

Appellants respectfully submit that the Examiner has failed to provide any articulated reasoning to support his claim that there is motivation or a reasonable expectation of success to texturize a surface to improve biocidal metal release. Podszun teaches a smooth surface; Podszun expressly states that a rough surface is not in accordance with the invention; and Podszun is directed to a coating that reduces biocidal metal release into the ocean. For at least these reasons, Podszun fails to provide motivation or a reasonable expectation of success to texturize a surface to improve biocidal metal release. The Examiner has failed to provide any other rationale why the skilled artisan would have modified Podszun to arrive at the present claims. Instead, the Examiner appears to have used hindsight reasoning to conclude that the claims are obvious. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness.

Even where a *prima facie* case of obviousness exists, obviousness may be rebutted by a showing of “unexpected results,” i.e., comparative test data showing that the claimed invention possesses unexpectedly improved properties, or properties that the prior art does not have. *In re Dillon*, 919 F.2d 688, 692-93, 16 U.S.P.Q.2d 1897, 1901 (Fed. Cir. 1990) (emphasis added). The results must be of both statistical and practical significance. *Ex parte C*, 27 U.S.P.Q.2d 1492, 1497 (Bd. Pat. App. & Int. 1993).

Objective evidence or secondary considerations such as unexpected results are relevant to the issue of obviousness and must be considered in every case in which they are present. MPEP

§ 2141(III). Examiners must consider comparative data in the specification which is intended to illustrate the claimed invention in reaching a conclusion with regard to the obviousness of the claims. *In re Margolis*, 785 F.2d 1029, 228 USPQ 940 (Fed. Cir. 1986); MPEP § 716.01(a). Evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims. *See In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980); MPEP § 716.02(b) - § 716.02(e).

Appellants respectfully submit that the Examiner has repeatedly failed to consider the comparative data in the specification that demonstrate the unexpected results obtained by the present composition. The Examples of the present application disclose using light friction to provide textured articles that had roughly a 10-fold greater average roughness than the “As such” un-modified samples. (¶ [0098]; Table 2) The textured articles with greater average roughness provide increased biocidal metal release as compared to the “As such” samples. Samples B, C, E, and F all show significantly increased silver release when the surfaces are texturized. ((¶ [0099]; Table 2) All the samples in Table 6 similarly demonstrate that texturizing a surface provides a one to two log improvement in biocidal efficacy. Appellants submit that the textured articles have unexpectedly improved biocidal activity compared to the nontextured articles, which approximately correspond to the nontextured coating in Podszun. In some examples, the improvement is greater than additive (a roughly 10-fold increase in surface roughness provides a 100-fold or 2-log improvement in biocidal efficacy). Appellants respectfully submit that these unexpected results are not present in Podszun and would further rebut a *prima facie* case of obviousness, if it existed.

In summary, Claims 1, 2, and 4-19 are patentable over the art of record. For the reasons cited above, Appellants respectfully submit that all of the claims are allowable and the application is in condition for allowance. Appellants respectfully request reversal of the outstanding rejections and allowance of this application.

In the event the Examiner has any queries regarding the submitted arguments, the undersigned respectfully requests the courtesy of a telephone conference to discuss any matters in need of attention.

If there are any additional charges with respect to this Appeal Brief, please charge them to Deposit Account No. 50-3621.

Respectfully submitted,

CANTOR COLBURN LLP

Date: June 12, 2007  
CANTOR COLBURN LLP  
55 Griffin Road South  
Bloomfield, CT 06002  
Telephone (860) 286-2929  
Facsimile (860) 286-0115

By Karen A. LeCuyer  
Karen A. LeCuyer  
Registration No. 51,928

## VIII. CLAIMS APPENDIX

1. (Previously Presented) An article comprising a thermoplastic composition comprising a thermoplastic resin and an inorganic biocidal agent,  
wherein the thermoplastic resin comprises a homopolymer or a copolymer of a polycarbonate, a polyester, a polyacrylate, a polyamide, a polyetherimide, a polyphenylene ether, or a combination comprising one or more of the foregoing resins,  
wherein the article comprises a textured exterior surface over at least a portion thereof, wherein the textured exterior surface comprises the thermoplastic resin and the biocidal inorganic agent;  
wherein the article has a biocidal metal release factor of greater than 2.5 from an exterior surface,  
wherein biocidal metal release in parts per billion is measured by contacting 5 cm by 5 cm of the exterior surface with 40 milliliters of 0.8% weight/volume of sodium nitrate for 24 hours at 25° C to form a test solution, and measuring an amount of biocidal metal in the test solution in parts per billion, and  
wherein the biocidal metal release factor is the amount of biocidal metal in the test solution in parts per billion divided by a product of a weight percent of the inorganic biocidal agent based on the total weight of the article and the weight percent of biocidal metal in the inorganic biocidal agent.
2. (Original) The article of Claim 1, wherein the biocidal metal release factor is greater than or equal to about 3.
3. (Canceled)
4. (Original) The article of Claim 1, wherein the inorganic biocidal agent is a biocidal zeolite.
5. (Original) The article of Claim 1, wherein the exterior surface is in the form of a layer disposed over at least a portion of the article.

6. (Original) An article comprising a textured exterior surface covering at least a portion thereof, wherein the textured exterior surface comprises an inorganic biocidal agent and a first thermoplastic resin.

7. (Original) The article of Claim 6, wherein the first thermoplastic resin, is a homopolymer or a copolymer of a polycarbonate, a polyester, a polyacrylate, a polyamide, a polyetherimide, a polyphenylene ether, or a combination comprising one or more of the foregoing resins.

8. (Original) The article of Claim 6, wherein the texturing is effective to produce biocidal activity.

9. (Original) The article of Claim 6, wherein texturing is effective to kill at least 50% of a pathogenic organism in contact with the exterior surface over a period of 24 hours at 25°C.

10. (Original) The article of Claim 6, wherein the textured exterior surface is in the form of a layer disposed on at least a portion of the article.

11. (Original) The article of Claim 10, wherein at least a portion of the article other than the textured exterior surface comprises a second thermoplastic resin that is the same as or different than the first thermoplastic resin.

12. (Original) The article of Claim 11, wherein at least a portion of the article other than the textured exterior surface comprises an inorganic biocidal agent that is the same as or different than the inorganic biocidal agent in the textured exterior surface.

13. (Previously Presented) The article of Claim 8, wherein the biocidal activity is an anti-microbial efficacy that is greater than or equal to about 70% killing of an E. coli culture or a Staphylococcus aureus culture, measured by contacting the exterior textured surface of the article with the E. coli culture or the Staphylococcus aureus culture, incubating the article for 24 hours at 37°C, and determining the percentage of killing of the E. coli culture or the Staphylococcus aureus culture.

14. (Original) The article of Claim 6, wherein the inorganic biocidal agent comprises a biocidal metal comprising silver, gold, copper, zinc, mercury, tin, lead, bismuth, cadmium, chromium, thallium, or a combination comprising one or more of the foregoing biocidal metals.

15. (Original) The article of Claim 14, wherein the inorganic biocidal agent is in the form of a metal salt, a hydroxyapatite, a zirconium phosphate, or a zeolite comprising at least one of the biocidal metals, or a combination comprising one or more of the foregoing forms.

16. (Original) The article of Claim 10, wherein the textured exterior surface layer has a thickness of about 5 micrometers to about 150 micrometers.

17. (Original) The article of Claim 6, in the form of a film, a sheet, or a multi-wall sheet.

18. (Original) The article of Claim 6, wherein the texturing is provided by chemical or mechanical abrasion of at least a portion of the outer surface.

19. (Previously Presented) The article of Claim 6, wherein the article reduces the growth of a pathogenic organism comprising *Bacillus cereus*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Streptococcus faecalis*, *Salmonella gallinarum*, *Vibrio parahaemolyticus*, *Candida albicans*, *Streptococcus mutans*, *Legionella pneumophila*, *Fusobacterium*, *Aspergillus niger*, *Aureobasidium pullulans*, *Cheatomium globosum*, *Gliocladium virens*, *Penicillium funiculosum*, *Saccharomyces cerevisiae*, a Herpes simplex virus, a polio virus, a hepatitis B virus, a hepatitis C virus, an influenza virus, a sendai virus, a sindbis virus, a vaccinia virus, a severe acute respiratory syndrome virus, or a combination comprising one or more of the foregoing organisms.

20. (Withdrawn) A method of making a textured article, comprising chemically or mechanically abrading an exterior surface of an article to form a textured exterior surface, wherein the exterior surface comprises an inorganic biocidal agent and a first thermoplastic resin, and wherein abrading results in an improvement in biocidal activity in the textured article compared to an untextured article.

21. (Withdrawn) A method of making a textured article, comprising calendaring an article to provide a textured exterior surface over at least a portion of the article, wherein the surface of a roller in contact with the exterior surface of the article comprises surface discontinuities, and wherein the textured exterior surface of the article comprises an inorganic biocidal agent and a first thermoplastic resin.

22. (Withdrawn) A method of making a textured article, comprising molding an article to provide a textured exterior surface over at least a portion of the article, wherein the surface of a mold in contact with the exterior surface of the article comprises surface discontinuities, and wherein the textured exterior surface of the article comprises an inorganic biocidal agent and a first thermoplastic resin.

**IX. EVIDENCE APPENDIX**

There is no evidence submitted pursuant to 37 C.F.R. §1.130, 37 C.F.R. §1.131, or 37 C.F.R. §1.132 or any other evidence entered by the Examiner and relied upon by the Appellant in this appeal, known to the Appellants, Appellants' legal representatives, or assignee.

**X. RELATED PROCEEDING APPENDIX**

There are no other related appeals or interferences known to Appellants, Appellants' legal representatives, or assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.